instance of attempting to solve a problem one of the necessary conditions being omitted.

The equations found in the second problem, are solved in the third problem, proving that the figure of equilibrium is an ellipsoid.

3. "Report of a Geometrical Measurement of the Height of the Aurora Borealis above the Earth." By the Rev. James Farquharson, LL.D., F.R.S.

The principal object to which the author directed the inquiries of which he here gives an account, is the determination by geometrical measurement of the height of the aurora borealis, and of the altitude and azimuth of the point to which the streamers seem to converge, and which has been termed the *centre of the corona*: these latter determinations constituting important data for enabling us to form a clear conception of the whole definite arrangement and progress of the meteor, and also a correct judgement of the degree of reliance to be placed on the methods employed for measuring its height above the earth. The paper is chiefly occupied with the details of the observations made or collected by the author, with their critical discussion, with the correction of some misapprehensions which have existed respecting the views stated by the author in his former papers, and with a reply to the strictures of M. Arago on those views.

The result of the geometrical measurement of one particular aurora, gave as the height of its upper edge, 5693 feet above the level of the Manse at Alford; and the vertex of its arch was found to be 14,831 feet northward of the same place. The vertical extension of the fringe of streamers was 3212 feet; leaving 2481 feet for the height of the lower edge above the level of Alford. The tops of the Corean hills, immediately under the aurora, are about 1000 feet higher than that level; so that the lower edge of the arch was only 1500 feet above the summit of that range of hills.

4. "On the Phosphates." By John Dalton, D.C.L., F.R.S., &c.

The author takes a review of the labours of preceding chemists which bear upon the subject of the atomic constitution of phosphoric acid, and the salts in which it enters as a constituent; and shows their conformity with the views he has already advanced on the subject. A supplement is added, giving an account of the effects of various degrees of heat on the salt denominated the *pyrophosphate of soda*.

5. "On the Arseniates." By the Same.

The author here examines the conformity of the results of the analysis of the salts of arsenic with his theory, in the same manner as he has done with the phosphates in the preceding paper.

6. "On the Constitution of the Resins." Parts II. and III. By J. F. W. Johnston, Esq., F.R.S.

In this paper the author, pursuing the train of investigation of